

Notice of Allowability

Application No.

10/656,835

Examiner

Yon Couso

Applicant(s)

CHO ET AL.

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 9/8/03.
2. ☒ The allowed claim(s) is/are 1-20.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date 9/8/03, 11/22/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

1. The following is an examiner's statement of reasons for allowance: prior art fails to teach a method and an apparatus for enhancing a digital image quality wherein original brightness data X_{ij} of a concerned pixel is compared with predetermined brightness levels X_1 and X_2 , which are reference variables to obtain new brightness data Y_{ij} , with an enhanced contrast, the method comprising setting initial values of a parameter $V_{sub.b}$ to calculate the brightness level X_1 , a parameter V_p to calculate the brightness level X_2 , the brightness level X_1 , and the brightness level X_2 , comparing the brightness data X_{ij} with the parameters $V_{sub.b}$ and $V_{sub.p}$, respectively, and outputting results indicative thereof, resetting the parameters $V_{sub.b}$ and $V_{sub.p}$ according to the results of the comparison, identifying a background area according to the results of the comparison between the brightness data X_{ij} and parameter X_1 or X_2 , performing the contrast enhancement on pixels belonging to the background area, and updating the brightness levels X_1 and X_2 using the parameters $V_{sub.b}$ and $V_{sub.p}$, respectively, when the concerned pixel is the last one in the concerned line, wherein the comparison of the brightness data X_{ij} with the parameters $V_{sub.b}$ and $V_{sub.p}$ is performed until one of the concerned pixel is the last one and the concerned pixel is the last pixel to be subject to the contrast enhancement.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

2. Claims 1-20 are allowed.

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Bates et al is cited because the reference teaches an automatic color contrast adjuster.

Oh is cited because the reference teaches an apparatus and a method for image processing for correcting contrast and brightness of an object.

Vuylsteke is cited because the reference teaches modifying contrast and density of pixels in an image.

Kim et al is cited because the reference teaches enhancing the digital image quality.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yon Couso whose telephone number is (571) 272-7448. The examiner can normally be reached on Monday through Friday from 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu, can be reached on (571) 272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

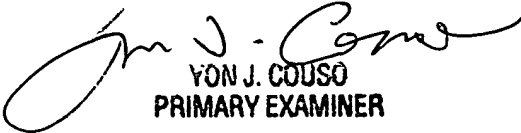
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YJC

October 17, 2006



YON J. COUSO
PRIMARY EXAMINER